

**DEPARTMENT OF TRANSPORTATION****DIVISION OF ENGINEERING SERVICES**

Office of Structural Materials

Quality Assurance and Source Inspection



Bay Area Branch  
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Contract #: 04-0120F4Cty: SF/ALA Rte: 80 PM: 13.2/13.9File #: 69.28**WELDING INSPECTION REPORT****Resident Engineer:** Pursell, Gary**Address:** 333 Burma Road**City:** Oakland, CA 94607**Report No:** WIR-014340**Date Inspected:** 24-May-2010**Project Name:** SAS Superstructure**OSM Arrival Time:** 700**Prime Contractor:** American Bridge/Fluor Enterprises, a JV**OSM Departure Time:** 1900**Contractor:** Zhenhua Port Machinery Company, Ltd (ZPMC), Changxing Island **Location:** Shanghai, China**CWI Name:** Chen Shi Gang**CWI Present:** Yes No**Inspected CWI report:** Yes No N/A**Rod Oven in Use:** Yes No N/A**Electrode to specification:** Yes No N/A**Weld Procedures Followed:** Yes No N/A**Qualified Welders:** Yes No N/A**Verified Joint Fit-up:** Yes No N/A**Approved Drawings:** Yes No N/A**Approved WPS:** Yes No N/A**Delayed / Cancelled:** Yes No N/A**Bridge No:** 34-0006**Component:** Bay 9 and 12**Summary of Items Observed:**

On this day Caltrans OSM Quality Assurance (QA) Inspector Christopher D'souza was present during the times noted above for observations relative to the fabrication of the SAS Superstructure being performed by Zhen Hua Port Machinery Company (ZPMC) at Chang Xing Island in Shanghai, China. QA Inspector observed and/or found the following:

Bay 12

QA Inspector performed Phased Array Ultrasonic Testing (PAUT) following the guide lines of UT procedure titled "Phased Array Ultrasonic Testing for the Detection and Sizing of Suspected Planar Discontinuities (Cracks) in PJP Welds, # UT 04-0120F4 PJP Rib Weld" after ZPMC welding personnel performed weld repairs of tacked areas of the Partial Joint Penetration (PJP) welds joining u-ribs to deck plate. The deck panels examined are as follows:

DP3120-001: 0 tack weld locations found compliant and 1 tack weld locations found non-compliant.

Tack weld locations found non-compliant are marked on U-rib and deck plate for ZPMC's reference for repair. See Caltrans U-rib to Deck Panel- Tack Weld Assessment sheets dated 22nd May, 2010 for further information on PAUT inspections.

This inspector performed In- Process inspections of production welding of deck panels in Bay 9. Welding was being performed on panel DP3079-001. The weld procedure was found to be WPS-B-T-2342-U1-(U-rib)-5. The welding operators were identified as follows:

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Weld 3- 059416  
Weld 4- 201788  
Weld 7- 203805  
Weld 8- 059378

ZPMC QC was present during the welding process and identified as Zhang Qiao. The ZPMC CWI was present during the welding process and identified as Chen Shi Gang.

During FCAW root welding process, the welding parameters were verified by this inspector and were as follows:

Head 3, Weld 5- 362 Amps, 30.7 Volts  
Head 4, Weld 6- 372 Amps, 30.7 Volts  
Head 5, Weld 7- 385 Amps, 30.3 Volts  
Head 6, Weld 8- 370 Amps, 30.4 Volts

### Tack Welding

This QA Inspector observed ZPMC welding personals identified as 059440 and 059373 performing Gas Metal Arc welding (GMAW) tack welding on DP3112-001 deck plate to U-rib. ZPMC QC is identified as Zhu Zhong Jie. The welding variables recorded by QC appeared to comply with the WPS-345-B-T-2342 U5b (U-Rib).

### Welding of Continuity plates on DP3112 – 001

This QA Inspector observed ZPMC welding personals identified as 059464 performing Flux Cored Arc welding (FCAW) on DP3180-001 U-rib internal stiffeners. ZPMC QC is identified as Zhu Zhong Jie. The welding variables recorded by QC appeared to comply with the WPS – B – T – 2133 and WPS – B – T – 2233 – Tc – U4b – F (CJP)

Unless otherwise noted, all work observed on this date appeared to be in general compliance with the applicable contract documents.



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### Summary of Conversations:

No relevant conversations.

### Comments

This report is for the purpose of determining conformance with the contract documents and is not for the purpose of making repair or fit for purpose recommendations. Should you require recommendations concerning repairs or remedial efforts please contact Eric Tsang 15000422372, who represents the Office of Structural Materials for your project.

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<b>Inspected By:</b>	Dsouza,Christopher	Quality Assurance Inspector
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<b>Reviewed By:</b>	Carreon,Albert	QA Reviewer
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